

1    CLAIMS

2    What is claimed is:

3    1.     A method comprising:

4            accessing configuration information of a first type for a device connected to a bus;

5            accessing configuration information of a second type for the device;

6            comparing a memory location of the configuration information of the first type to a

7    memory location of the configuration information of the second type; and

8            selecting the configuration information of the first type if the memory location of the

9    configuration information of the first type matches the memory location of the configuration

10   information of the second type.

11   2.     The method of claim 1, wherein the bus further comprises a Peripheral Component

12   Interconnect bus.

13   3.     The method of claim 1, wherein the bus further comprises a Universal Serial Bus.

14   4.     The method of claim 1, wherein selecting the configuration information further comprises

15   storing the configuration information.

16   5.     A method of enabling a device driver to access a translated resource descriptor of a Plug-  
17   and-Play device connected to a bus, comprising:

18            accessing a registry of a Windows Plug-and-Play compliant operating system;

4           accessing a registry key of the registry;  
5           determining that the registry key is not empty;  
6           determining that a subkey of the registry key contains a resource list;  
7           accessing a main resource descriptor in the resource list;  
8           making a determination that the main resource descriptor is translated;  
9           making a determination that a translated main resource descriptor is for an installed  
10 device;  
11          converting the translated main resource descriptor to a data structure for the device driver;  
12          accessing a partial resource descriptor of the translated main resource descriptor;  
13          accessing raw basic input/output system (BIOS)-assigned configuration information for  
14 the device;  
15          comparing a memory address location of the raw BIOS-assigned configuration  
16 information to the memory address location of the partial resource descriptor; and  
17          selecting the translated main resource descriptor containing the partial resource descriptor  
18 with the memory address location that matches the memory address location of the raw BIOS-  
19 assigned configuration information.

1   6.       The method of claim 5, wherein the device driver further comprises a kernel mode device  
2 driver.

1   7.       The method of claim 5, wherein the device further comprises a network adapter.

1 8. The method of claim 5, wherein the bus further comprises a Peripheral Component  
2 Interconnect bus.

1 9. The method of claim 5, wherein the bus further comprises a Universal Serial Bus.

1 10. The method of claim 5, wherein the Windows PnP compliant operating system further  
2 comprises a Windows NT operating system.

1 11. The method of claim 5, wherein the registry key further comprises the HKEY\_LOCAL\_  
2 MACHINE/HARDWARE/ RESOURCEMAP/Plug and Play Manager/Plug and Play Manager  
3 registry key.

1 12. The method of claim 5, wherein determining that the main resource descriptor is  
2 translated further comprises identifying the character string “translated” in the main resource  
3 descriptor.

1 13. The method of claim 5, wherein determining from the main resource descriptor that the  
2 device is installed further comprises identifying the character string “NTPNP” in the main  
3 resource descriptor.

1 14. The method of claim 5, wherein the data structure further comprises the  
2 CM\_RESOURCE\_LIST data structure.

1 15. The method of claim 5, wherein the memory address location further comprises base  
2 address register 0.

1 16. A method of enabling a device driver to access a translated resource descriptor of a  
2 hardware device connected to a bus, comprising:  
3 accessing a registry of an operating system;  
4 determining that the registry contains a resource list;  
5 accessing a resource descriptor in the resource list;  
6 making a determination that the resource descriptor is translated;  
7 accessing a partial resource descriptor of the translated resource descriptor;  
8 accessing basic input/output system (BIOS)-assigned configuration information for the  
9 hardware device;  
10 comparing a memory address location of the BIOS-assigned configuration information to  
11 the memory address location of the partial resource descriptor; and  
12 selecting the translated resource descriptor containing the partial resource descriptor with  
13 the memory address location that matches the memory address location of the BIOS-assigned  
14 configuration information.

1 17. The method of claim 16, wherein the hardware device further comprises a Plug-and-Play  
2 (PnP) hardware device.

1 18. The method of claim 16, wherein the operating system further comprises a Windows PnP  
2 compliant operating system.

1 19. An article of manufacture comprising a machine-accessible medium having stored  
2 thereon sequences of instructions that, when executed by the machine, cause the machine to:  
3 access a registry of a Windows PnP compliant operating system;  
4 access a registry key of the registry;  
5 determine whether the registry key is empty;  
6 determine whether a subkey of the registry key contains a resource list;  
7 determine whether a main resource descriptor of the resource list is translated;  
8 determine whether a translated main resource descriptor is for an installed device;  
9 convert the translated main resource descriptor to a data structure for the device driver;  
10 access a partial resource descriptor of the translated main resource descriptor;  
11 access raw basic input/output system (BIOS)-assigned configuration information for a  
12 device connected to a bus;  
13 compare a memory address in base address register 0 of the partial resource descriptor to  
14 a memory address in base address register 0 of the BIOS-assigned configuration information; and  
15 select the main resource descriptor containing the partial resource descriptor with the  
16 memory address in base address register 0 that matches the memory address in base address  
17 register 0 of the BIOS-assigned configuration information.

1 20. The article of claim 19, wherein the device driver further comprises a kernel mode device  
2 driver.

1 21. The article of claim 19, wherein the Windows PnP compliant operating system further  
2 comprises a Windows NT operating system.

1 22. The article of claim 19, wherein the registry key further comprises the HKEY\_LOCAL\_  
2 MACHINE/HARDWARE/ RESOURCEMAP/Plug and Play Manager/Plug and Play Manager  
3 registry key.

1 23. The article of claim 19, wherein determining that the main resource descriptor is  
2 translated further comprises identifying the character string “translated” in the main resource  
3 descriptor.

1 24. The article of claim 19, wherein determining that the translated main resource descriptor  
2 is for an installed device further comprises identifying the character string “NTPNP” in the  
3 translated main resource descriptor.

1 25. The article of claim 19, wherein the data structure further comprises the  
2 CM\_RESOURCE\_LIST data structure.

1 26. The article of claim 19, wherein the device further comprises a network adapter.

1 27. The article of claim 19, wherein the bus further comprises a Peripheral Component  
2 Interconnect bus.

1 28. The article of claim 19, wherein the bus further comprises a Universal Serial Bus.

1 29. A device driver, comprising:

2 a partial resource descriptor accesser to access a partial resource descriptor of a translated  
3 main resource descriptor of a resource list of a registry key of a registry of a Windows Plug-and-  
4 Play compliant operating system;

5 a PCI configuration space accesser to access a Peripheral Component Interconnect (PCI)  
6 configuration space containing raw basic input/output system (BIOS)-assigned PCI configuration  
7 information for a Plug-and-Play device connected to a PCI bus;

8 a memory address collector to collect a memory address of the partial resource descriptor  
9 and the memory address of the raw BIOS-assigned PCI configuration information,

10 a memory address comparer to compare the memory address of the partial resource  
11 descriptor to the memory address of the raw BIOS-assigned PCI configuration information; and

12 a main resource descriptor retriever to retrieve the translated main resource descriptor  
13 containing the partial resource descriptor with the memory address that matches the memory  
14 address of the raw BIOS-assigned configuration information.

1 30. The device driver of claim 29, wherein the device driver comprises a kernel mode device  
2 driver.

